

LOW DROPOUT REGULATOR USING GATE MODULATED DIODE

Alaa Elbanhawy

ABSTRACT

[0039] A voltage regulator includes an input terminal at which an input voltage is applied and an output terminal at which an output voltage is provided to a load. The load defines a load current. A gate modulated diode is connected between the input terminal and the output terminal. The gate modulated diode has a forward voltage drop that is controllable by a voltage signal applied to a gate of the gate modulated diode. A first operational amplifier, capable of operating with a low supply voltage, is operable to apply the voltage signal at the gate of the gate modulated diode to control the forward voltage drop. The output voltage is regulated to a predetermined low voltage when the load current is within an operational range for the voltage regulator.